

**CATALOGUE OF A COLLECTION OF FISHES OBTAINED IN THE GULF OF MEXICO, BY DR. J. W. VELIE, WITH DESCRIPTIONS OF SEVEN NEW SPECIES.**

By **G. BROWN GOODE** and **TARLETON H. BEAN.**

MALTHEIDÆ.

1. *Halieutichthys aculeatus* (Mitchill), Goode.

*Lophius aculeatus*, MITCHILL. Amer. Monthly Mag. II, 1878, p. 325 (Straits of Bahama).

*Halieutichthys reticulatus*, POEY. Proc. Acad. Nat. Sci., Phil., 1863, p. 91 (Cuba).

*Halieutichthys aculeatus*, GOODE. Proc. U. S. N. M., II, 1879, p. 109 (calling attention to Mitchill's description).

A single specimen, No. 23552, 5 centimeters long, was collected by Dr. Velie, at Key West.

DIODONTIDÆ.

2. *Chilomycterus geometricus* (Linn.), Kaup.

Two specimens (No. 23542) collected at Key West. They belong to Günther's var. *a*, but are much lighter than any specimens among the hundreds we have seen from the North Atlantic coast, the width of the brown longitudinal stripes being comparatively small in relation to those of light color.

OSTRACIONTIDÆ.

3. *Ostracion trigonus*, LINNÆUS.—*Shell-fish*.

A single specimen in salt (No. 23645) from the west coast of the peninsula.

BALISTIDÆ.

4. *Monacanthus occidentalis*, Günther.

A single specimen (No. 23551), 63 millimeters long, from Key West. The specimen has the scales upon the posterior portion of the body hispidate, also a pair of strong recurved spines on each side of the caudal peduncle. Four indistinct longitudinal brown bands upon the side, and a fifth much deeper in color at the base of the ventral flap, triangular in form, the base of the triangle extending from base of the ventral spine to the vent. The outer half of the ventral flap is white with a submarginal stripe and three or four lines of ocellæ of light brownish gray.

D. 30, A. 30.

SYNGNATHIDÆ.

5. ? *Syngnathus louisianæ*, Günther.

A single specimen (No. 23549), 64 millimeters long, was collected by Dr. Velie at San Marco Island, Florida.

D. 32 (?). Osseous rings 17 + 32.

The specimen corresponds closely with Günther's description. Its principal points of distinction from *S. fuscus* are the low, somewhat short dorsal fin and the short snout.

#### BATRACHIDÆ.

6. *Batrachus tau*, Linnaeus, *subsp. beta*, Günther.

A specimen (No. 23541), 22 centimeters long, was collected by Dr. Velie at Punta Russa, the most southern locality on record for this species.\*

This fish, like all other Gulf of Mexico specimens inspected by us, agrees closely with var.  $\beta$ , as defined by Günther,† in the tendency to expansion of the dark areas; the presence of small whitish spots upon the body; the greater average number of bands on the anal, approximating in number those of the dorsal, and the marking of the pectorals and caudal in white spots upon dark ground, rather than in brown upon white. The coloration of the southern specimens appears to be due to a tendency toward melanism, the dark areas being intensified as well as expanded. In the Punta Russa specimen (No. 23541) the main color is nearly black, the lines and marblings being of light shades of brown and brownish white, sharply and beautifully defined against the dark body-color. In the Pensacola specimen, No. 21477, the melanistic tendency is less evident. We consider the Gulf specimens as, for the present, constituting a distinct subspecies, founded entirely upon color.

Radial formula of No. 23541, D. III, 24. A. II, 19. The first and second dorsal fins are continuous in 23541, but this is evidently accidental.

That the number of bands on the fins and their tendency to confluence is a character of little importance is shown in the following color notes: No. 4637 *a*. Beesley's Point. S. F. Baird.

Light brown, finely marbled with darker, and not white spotted (*a* and *b*). Dorsal with eight bands. Anal with seven bands. Caudal with six bands. Pectorals irregularly brown spotted.

4637 *b*. Beesley's Point. S. F. Baird.

Light brown, coarsely marbled with darker. Dorsal with six bands, anal with six bands, caudal with four bands, pectorals with the brown spots arranged in four bands.

\* The National Museum has a specimen from Pensacola, Fla., collected by Silas Stearns in 1878 (No. 21477); another from West Florida, collected by Kaiser and Martin (No. 5149), and two collected at Indianola, Tex., by J. H. Clark (No. 746). No species of *Batrachus* is now recognized from the eastern coast of South America, though it seems certain that some species, closely allied to *B. tau*, or perhaps even this very species, occurs in Brazil. Compare *Batrachus Gronorii*, CUV. & VAL., Hist. Nat. Poiss., xii, 1837, p. 482.—*Batrachus cryptocentrus*, CUV. & VAL., l. c., p. 485, from Bahia, rejected by Günther as incompletely described.

† Cat. Fish Brit. Mus., iii, 1861, p. 167.

4637 *c.* Beesley's Point. S. F. Baird.

Dorsal with eight, anal with seven, caudal with five, pectoral with five bands.

4637 *d.* Beesley's Point. S. F. Baird.

Dorsal with eight, anal with six, caudal with four, pectoral with spots arranged in irregular, almost complete, bands.

4637 *e.*

Dorsal with nine bands, the second and third and sixth and seventh confluent. Anal with nine bands. Pectoral with irregularly arranged quadrangular spots of brown and white, in a sort of checkerboard arrangement.

3441. Norfolk, Va. Dr. Jeffries.

Body as usual. Dorsal with seven, anal with eight, caudal with four bands. Pectorals irregularly spotted with brown, arranged approximately in five bands.

23541. Punta Russa, Fla. Dr. J. W. Velie.

Body brown, marbled with very dark brown, and spotted with whitish. Dorsal with nine very regular blackish bands of uniform width, sharply separated by white. Anal with nine regular bands. Caudal with five. Pectoral brownish black dotted with white.

20632. Wood's Holl, Mass. U. S. F. C.

Young specimen. White, with sides coarsely reticulated with brown. Dorsal with seven irregular confluent bands. Anal with nine irregular bands. Caudal irregularly marbled with broad penciling of brown. Pectoral with three or four very irregular lines of brown blotches.

D 26. A 21.

Others in the same bottle correspond in markings and radial formulæ.

746. Indianola, Texas. J. H. Clark.

Faded alcoholic specimens show a general agreement with the other Gulf specimens in the presence of seven to nine bands in both dorsal and anal, and in the white spots on pectoral and caudal.

D. III. 25; A. 20 (in two specimens).

21477. Pensacola, Fla. Silas Stearns.

Body nearly black, but agreeing in general with the descriptions, and with tendency to white maculation on body, pectoral, and caudal. Three bands on dorsal, eight on anal, not clearly separated as in the Key West specimen.

## Table of measurements.

*Batrachus tau*, subsp. *beta*.

|  |                   |                         |
|--|-------------------|-------------------------|
| Current number of specimen.....                  | 21477             |                         |
| Locality.....                                    | Pensacola, Fla.   |                         |
|  | Millime-<br>ters. | 100ths<br>of<br>length. |
| Extreme length.....                              | 242               |                         |
| Length to origin of middle caudal rays.....      | 205               |                         |
| Head:  |                   |                         |
| Greatest length, obliquely to gill-opening.....  |                   | 42                      |
| Greatest width.....                              |                   | 29½                     |
| Width of interorbital bone.....                  |                   | 4                       |
| Length of snout (oblique).....                   |                   | 8                       |
| Length of operculum to end of longest spine..... |                   | 8                       |
| Length of upper jaw.....                         |                   | 20½                     |
| Length of mandible.....                          |                   | 26                      |
| Diameter of orbit.....                           |                   | 5                       |
| Dorsal (spinous):                                |                   |                         |
| Distance from snout.....                         |                   | 37                      |
| Length of base.....                              |                   | 9                       |
| Height at first spine.....                       |                   | 3½                      |
| Height at second spine.....                      |                   | 6                       |
| Dorsal (soft):                                   |                   |                         |
| Length of base.....                              |                   | 53                      |
| Anal:  |                   |                         |
| Distance from snout.....                         |                   | 60                      |
| Length of base.....                              |                   | 42                      |
| Caudal:  |                   |                         |
| Length of middle rays.....                       |                   | 18                      |
| Pectoral:  |                   |                         |
| Distance from snout.....                         |                   | 41                      |
| Length (without peduncle).....                   |                   | 16                      |
| Ventral:   |                   |                         |
| Distance from snout.....                         |                   | 31                      |
| Length.....                                      |                   | 17½                     |
| Dorsal.....                                      | III, 24           |                         |
| Anal.....  | 22                |                         |
| Pectoral.....                                    | 18                |                         |
| Ventral.....                                     | I, 2              |                         |

7. *Batrachus tau*, subsp. *pardus* Goode & Bean.

Two specimens of a very remarkable form of *Batrachus* were collected in Pensacola in 1878 by Mr. Silas Stearus. They are mentioned on p. 127, in our paper on the fishes of Pensacola, September 19, 1879. Our suspicions as to their specific individuality then expressed have not been confirmed by more careful study. The characters by which they are separated from typical *Batrachus tau* are extremely difficult to define. Yet, unless other specimens are obtained which shall bridge the chasm between the two Pensacola specimens and all others of *B. tau* from Pensacola and elsewhere in the Museum, we cannot but consider them as representing two distinct subspecies. The melanistic tendency of the typical *B. tau* in the South, as observed by Günther and illustrated by all our Gulf specimens, should be taken into consideration, for the types of *B. pardus* are lighter in color than any specimens of *B. tau* in the Museum.

The vertebræ number 12-22 (the modified vertebra at the base of the caudal fin not being included). These fish were called in Pensacola by the names "Sea Robin" and "Sapo"; the latter being doubtless a corruption of the Spanish "Sapo", meaning "toad".

*Color*.—Body very light yellowish brown, gray beneath, thickly spotted with dark brown. The spots on the head are smaller than those on the body. Those on the under side of the body are numerous, circular, the largest equalling the eye in size. On the upper part of the back are many large oblong blotches of brown, interspersed with numerous smaller circular spots. The markings of the dorsal and anal fins remotely resemble those in *Batrachus tau*, subsp. *a* and *β*. In No. 22337*a* there are nine interrupted bands on the dorsal and six on the anal, two distinct bands on the anterior half of the caudal, and on its posterior half numerous blotches of the body color or dark brown grayish. Pectorals grayish at the base, yellowish brown elsewhere, and thickly blotched with dark brown.

In No. 22337*b* the oblique bands on the dorsal fin are obsolete, replaced by irregular blotches and an irregular marginal band of black. The anal exhibits obsolescent bands, perhaps eight in number. Caudal dark brown with a few light blotches. Pectoral as in 22337*a*, but with a wide brownish black margin.

Table of measurements.

*Batrachus tau*, subsp. *pardus*.

| Current number of specimen .....                  | 22337 <i>a</i> .  |                         | 22337 <i>b</i> .  |                         |
|---|-------------------|-------------------------|-------------------|-------------------------|
|   | Pensacola, Fla.   |                         | Pensacola, Fla.   |                         |
| Locality .....                                    | Millime-<br>ters. | 100ths<br>of<br>length. | Millime-<br>ters. | 100ths<br>of<br>length. |
| Extreme length .....                              | 379               |                         |                   |                         |
| Length to origin middle caudal rays .....         | 320               |                         | 320               |                         |
| Head:   |                   |                         |                   |                         |
| Greatest length, obliquely to gill-opening .....  |                   | 36½                     |                   | 37½                     |
| Greatest width .....                              |                   | 31                      |                   | 32                      |
| Width of interorbital bone .....                  |                   | 4½                      |                   | 4½                      |
| Length of snout (oblique) .....                   |                   | 7½                      |                   | 8                       |
| Length of operculum to end of largest spine ..... |                   | 7                       |                   | 8½                      |
| Length of upper jaw .....                         |                   | 18                      |                   | 19½                     |
| Length of mandible .....                          |                   | 24                      |                   | 23½                     |
| Diameter of orbit .....                           |                   | 5                       |                   | 5                       |
| Dorsal (spinous):                                 |                   |                         |                   |                         |
| Distance from snout .....                         |                   | 35½                     |                   | 35½                     |
| Length of base .....                              |                   | 8½                      |                   | 6½                      |
| Length of first spine .....                       |                   | 4½                      |                   | 4                       |
| Length of second spine .....                      |                   | 6                       |                   | 5                       |
| Dorsal (soft):                                    |                   |                         |                   |                         |
| Distance from snout .....                         |                   | 46½                     |                   |                         |
| Length of base .....                              |                   | 54                      |                   |                         |
| Anal:   |                   |                         |                   |                         |
| Distance from snout .....                         |                   | 61                      |                   | 63                      |
| Length of base .....                              |                   | 38                      |                   | 40                      |
| Caudal:   |                   |                         |                   |                         |
| Length of middle rays .....                       |                   | 18½                     |                   |                         |
| Pectoral:   |                   |                         |                   |                         |
| Distance from snout .....                         |                   | 35½                     |                   | 38                      |
| Length (without peduncle) .....                   |                   | 17                      |                   | 16                      |
| Ventral:  |                   |                         |                   |                         |
| Distance from snout .....                         |                   | 23                      |                   | 26                      |
| Length .....                                      |                   | 18½                     |                   | 21                      |
| Dorsal* .....                                     | III, 26           |                         | III, 26           |                         |
| Anal .....  | 22                |                         | 22                |                         |
| Pectoral .....                                    | 21                |                         | 21                |                         |
| Ventral .....                                     | I, 2              |                         | I, 2              |                         |

\* Fin injured; some of the rays are missing—III, 26 present.

## TRIGLIDÆ.

8. *Prionotus punctatus* (Bloch), Cuvier.

A single young specimen (No. 23550), 61 millimeters in length, was collected by Dr. J. W. Velie, at Clear Water Harbor, Fla.

D. X, 13; A. I, 11.

## SCORPÆNIDÆ.

9. *Scorpæna* sp.

A small specimen in bad condition (No. 23556), 45 millimeters long, from Clear Water Harbor, Fla. It agrees in most particulars with *Scorpæna plumieri*, Schu., but appears to have much larger scales. The scales are rubbed off from the posterior part of the body, but the indications are that they did not exceed 30 or 35 in number, while *S. plumieri* has 45. The count is not sufficiently certain to be of value, but the occurrence of the genus at this locality should be noted.

D. XI, 1, 10; A. III, 5.

## LABRIDÆ.

10. *Chærojulis humeralis* (Poey).

A single young specimen (No. 23626), 60 millimeters long, collected at Clear Water Harbor, Fla. It agrees with Poey's type of *Julis humeralis* except in the absence of the nuchal band, the band upon the dorsal fin, and the dark corners of the caudal fin. These may possibly be acquired with age. The three Cuban specimens examined all exceeded 120 millimeters in length.

D. IX, 11; A. III, 12. L. lat. 2 | 27 | 9.

## POMACENTRIDÆ.

11. *Pomacentrus leucostictus* M. & T.

Three specimens (No. 23627), 46 millimeters to 55 millimeters long, were collected by Dr. J. W. Velie, at Clear Water Harbor, Fla. The species is a strongly-marked one, and the specimens before us agree in every particular with Dr. Günther's excellent description. They are of the brown type of coloration, and are sufficiently young to show traces of the black ocella on the tail, though the blue ring is not very distinct, and of the convergent blue lines on the snout. Specimens of the same size from the Bermudas show them much more clearly.

D. XII, 15; A. II, 13; L. Lat. 3 | 28 | 9.

12. *Glyphidodon concolor* (Gill), Günther.

A single specimen (No. 23652), 38 millimeters long, was taken at Marquesas Keys, Florida. The radial formula is as follows:

D. XII, 12; A. II, 8  $\frac{1}{2}$ ; V. I, 5; Scales 2 $\frac{1}{2}$ —25—9 $\frac{1}{2}$ .

There are six dark bands on the body and tail.

CARANGIDÆ.

13. *Oligoplites occidentalis* (Linn.), Gill.—*Herring*.

Two or three specimens (No. 23646) in salt from "West Florida."

14. *Trachynotus ovatus* (Linn.), Günther.

Six young specimens (No. 23638), 22 millimeters to 32 millimeters long, were obtained at Marquesas Keys, Florida. The radial formulæ are as follows:

|                    |               |
|--------------------|---------------|
| (a.) D. vi, i, 18. | A. ii, i, 17. |
| (b.) D. vi, i, 18. | A. ii, i, 17. |
| (c.) D. vi, i, 19. | A. ii, i, 18. |
| (d.) D. vi, i, 18. | A. ii, i, 17. |
| (e.) D. vi, i, 18. | A. ii, i, 17. |
| (f.) D. vi, i, 19. | A. ii, i, 17. |

15. *Trachynotus gorensis*, Cuv. and Val. Permit; Crevallé.

A large specimen (No. 23647), in salt, about 20 inches long, was sent from West Florida by Dr. Velie. It agrees with the form which we at present call *Trachynotus gorensis*.

Several small specimens (No. 23637), 27 millimeters to 50 millimeters long, apparently of the same species, were obtained at Marquesas Keys.

(a.) D. VI, 1, 19: A. II, 1, 17. (b.) D. VI, 1, 19: A. II, 1, 17. (c.) D. VI, 1, 17; A. II, 1, 17.

The figure given by Girard in the Ichthyology of the Mexican Boundary, plate xi, fig. 4, under the name *Doliodon carolinus*, is pretty certainly taken from a young specimen of this species, though the number of rays in the dorsal has perhaps been changed to make the figure correspond with the description on page 22.

The young *T. gorensis* is distinguished from *T. carolinus* of the same size by the greater height of the spinous dorsal, the smaller number of dorsal and anal rays, and the stronger black blotch upon the lobe of the dorsal.

16. *Carangus pisquetus* (Cuv. and Val.), Girard.—*Leather Jacket*.

*Caranx pisquetos*, CUVIER and VALENCIENNES, Hist. Nat. Poiss., ix, p. 97.

*Carangus pisquetus*, GIRARD. Proc. Acad. Nat. Sci., Phila., x, 1858, p. 168.

*Paratractus pisquetus*, GILL, Proc. Acad. Nat. Sci. Phila., 1862, p. 432.

Three specimens (No. 23642), in salt, from West Florida, apparently belonging to this species.

17. *Selene argentea* (Lacép.), Brevoort.—*Moonfish*.

A single specimen in salt (No. 23641), from West Florida.

GERRIDÆ.

18. *Diapterus harengulus*, Goode & Bean.

*Eucinostomus harengulus*, GOODE & BEAN, Proc. U. S. Nat. Mus., II, p. 132.

Two specimens (No. 23630), 65 and 66 millimeters long, from Clear Water Harbor, Fla.

D. IX, 10; A. III, 7; P. 15; V. I, 5; C. + 17 +. L. lat. 44; L. transv.  $\frac{5}{10}$ .

The back has a slight tawny hue, interrupted as it blends with the white of the sides by five or six indistinct, scollopy incursions of the body color, giving the upper part of the side of the fish a marbled appearance.

19. *Diapterus homonymus*, n. sp. Goode & Bean.

*Eucinostomus argenteus*, GIRARD, U. S. & Mex. Bound. Surv., Vol. II, Part II, 1859. Ichth. p. 17, pl. IX, figs. 9-12 (not Baird & Girard, 1854).

*Gerres argenteus*, GÜNTHER, Cat. Fish Brit. Mus., IV, 1862, p. 256.

Three specimens (No. 23639), 57-70 millimeters long, from Clear Water Harbor.

D. IX, 10; A. III, 7. L. lat. 47; L. transv.  $\frac{5}{10}$ .

This species is distinct from *Diapterus argenteus* (*Eucinostomus argenteus* of Professor Baird's Report on Fishes of New Jersey coast), though specifically identical with the forms credited to *Gerres argenteus* by Günther, on the testimony of specimens distributed, under the name *Eucinostomus argenteus*, by the Smithsonian Institution.

#### SPARIDÆ.

20. *Sparus*, sp.—*Sheepshead*.

A large specimen in salt (No. 23641), from "West Florida," too dilapidated for identification.

D. XII, 10  $\frac{1}{2}$ ; A. III, 9. L. lat. 55.

#### PRISTIPOMATIDÆ.

21. *Hæmulon fremebundum*, n. sp. Goode & Bean.

Two specimens (No. 23628), 60 millimeters and 62 millimeters long, were collected by Dr. J. W. Velie, at Clear Water Harbor, Fla. Their general appearance is similar to that of *Hæmulon trivittatum* (Schn.) Goode (*H. capenna* of the Bermuda catalogue), but the body is higher, the number of spines and rays in the dorsal fin is different, and the scales are much larger, particularly upon the sides, and the second anal spine much stronger. The form may possibly correspond to that called by Cuvier, *H. caudimacula*, but the description of this species is so vague that it does not seem justifiable to thus sanction the use of the name; particularly since Cuvier's species came from Brazil. The diagnosis here presented is not a complete one, but none better could be prepared from our specimens.

*Diagnosis*.—Height of body contained 3 times in total length without caudal,  $3\frac{1}{2}$  in length of fish, caudal included. Length of head equals height of body. Length of snout less than diameter of eye (the specimens being young), and contained about four times in the length of the head, and equalling length of operculum. Eye contained in length of head less than three times. Posterior extremity of maxillary extends beyond the vertical through the anterior margin of the orbit, but not



to that through the middle. Preoperculum with numerous sharp denticulations upon its posterior margin and around the angle, the latter the largest. Dorsal fin moderately notched, the fourth spines the longest, contained twice in the length of the head. Second anal spine very strong, and longer than the fourth dorsal spine; longer also than third anal spine. Pectoral fin reaches to vertical from 11th spine of dorsal, its length contained  $4\frac{1}{3}$  in length of body without caudal,  $5\frac{1}{2}$  in total length. Length of ventral equal to that of caudal peduncle, and extending as far back as does the pectoral.

Scales very large, and so irregularly arranged that it is impossible to make a close enumeration of them; there are about forty-eight to fifty-two rows.

*Color*.—Pale, with a pair of bands as broad as the pupil extending from the snout, where they unite, following the dorsal line at a distance about equal to their own width and connecting with the same at the end of the base of the second dorsal where they reunite; a second broad pair of bands, extending from the snout through the middle of the eye, in a straight line below the lateral line to the base of the caudal; traces, on the head, of a pair of narrower bands between the two pairs already mentioned; also a single stripe, on the mesial line of the body, from a point in advance of the eyes to the region of the dorsal. A very prominent blotch at the base of the caudal fin.

D. XI, 1, 15. A. III, 8. Scales, 5 | (50) | 10.

#### SERRANIDÆ.

##### 22. *Rhypticus pituitosus*, n. sp. Goode & Bean.

A single young specimen (No. 23555), 47 millimeters long, collected at Key West, Fla. Although immature, its characters seem to distinguish it from all described species. Its nearest ally is the *Rhypticus nigripinnis* of Gill, from Panama,\* but we do not feel justified in referring the Key West specimen to this species, in view of the differences in color and the remoteness of the two localities. In radial formulæ and proportions it agrees sufficiently well with Gill's diagnosis.

*Diagnosis*.—One continuous dorsal. The height of the body is less than the length of the head, being contained  $3\frac{1}{2}$  times in length of body without caudal,  $4\frac{2}{3}$  times in total length. Length of head, exceeding  $\frac{1}{3}$  of length of body without caudal, contained  $3\frac{1}{2}$  times in total length. Diameter of eye double the length of the snout and half as long as the lower jaw. Upper jaw reaches nearly to vertical from posterior margin of orbit. Width of posterior expansion of maxilla equals one-third length of lower jaw. Length of upper jaw contained  $2\frac{1}{2}$  times in length of head. Length of pectoral equals that of postorbital portion of head. Pectorals extend beyond the tips of the ventrals a distance equal to length of ventrals. Dorsal and anal fins higher posteriorly, the longest

\* 1861. GILL, THEODORE N. Synopsis generum Rhyptici et affinium. < Proc. Acad. Nat. Sci. Phila. 1861, pp. 52-54 (p. 53).

rays in the two fins being equal. The longest anal rays reach to, and the longest dorsal rays reach beyond, a vertical through the origin of the middle caudal rays. Pectoral rounded. Ventral short. Scales moderate.

*Color*.—Very light brown, with numerous small brown spots, the diameter of the largest one-third that of the eye, absent on the abdomen and throat. Traces of light margins to vertical fins.

D. II, 27; A. 15; V. I, 5; P. 14; C. 15. Lateral line 9-90-30.

#### SPHYRÆNIDÆ.

##### 23. *Sphyræna picuda*.—*Barracoudu*.

Specimens in salt (No. 23644) from "West Florida."

#### MUGILIDÆ.

##### 24. *Mugil brasiliensis*, Agassiz.—*Mullet*.

A single specimen (No. 23643) in salt from West Florida.

#### ATHERINIDÆ.

##### 25. *Atherina Velieana*, n. sp. Goode & Bean.

A single specimen (No. 23629), 45 millimeters long, was collected by Dr. Velie in Clear Water Harbor, Fla.

*Diagnosis*.—Height of body contained  $4\frac{2}{3}$  times in total length of body, without caudal, the length of the head  $3\frac{1}{2}$  times. The spinous dorsal begins behind the vertical from the tip of the pectoral fin, and its origin is in the vertical from the tips of the rather long ventrals. The diameter of the orbit is contained twice in the length of the head, being greater than the width of the interorbital area and more than twice the length of the snout. Snout obtuse, the top of the head being broad and very flat. The cleft of the mouth somewhat oblique, the jaws equal anteriorly. The maxilla extends beyond the vertical from the anterior margin of the orbit, the mandible reaching nearly to that from its middle. Teeth very small in the jaws and on the vomer. The silvery band occupies the third row of scales (the dorsal mesial row not being included in the count); its width is less than half that of the eye.

D. V, 1, 9; A. 1, 10  $\frac{1}{2}$ ; V. I, 5; P. 15. L. lat. 36; L. trans. 6 $\frac{1}{2}$ .

#### CYPRINODONTIDÆ.

##### 26. *Mollienesia latipinna*, Le Sneur.

Three specimens (No. 23554), about 5 centimeters long, were collected in Clear Water Harbor, Fla., male and females.

#### SYNODONTIDÆ.

##### 27. *Synodus fœtens* (Linn.), Gill.

A single specimen (No. 23552), 68 millimeters long, was obtained at Key West by Dr. Velie.

D. 13. A. 12. L. lat. 63.

## CLUPEIDÆ.

28. *Harengula pensacolæ*, Goode & Bean.

*Harengula pensacolæ*, GOODE & BEAN, PROC. U. S. N. M., II, p. 153, Nov. 5, 1879.

A single specimen (No. 23631), 90 millimeters long, was obtained by Dr. Velie at Clear Water Harbor. It agrees perfectly with the published description (*sup. cit.*) except that there are 14 abdominal scutes. This character then is demonstrated to be of no value in separating the species of this genus. The pectoral rays number 14 (instead of 15, as in the *Pensacola* specimens).

## ENGRAULIDIDÆ.

29. *Engraulis hiulcus*, n. sp. Goode and Bean.

A single specimen, in bad condition (No. 23632), 47 millimeters long, was collected by Dr. J. W. Velie at Clear Water Harbor, Fla.

*Diagnosis*.—Height of body contained  $5\frac{1}{2}$  times in its length without caudal,  $6\frac{1}{2}$  times in total length. Length of head contained  $3\frac{2}{3}$  in length without caudal,  $4\frac{1}{2}$  in length with caudal. Diameter of the eye greater than length of snout, and one-third the length of the head. Snout somewhat compressed. Minute teeth in both jaws. Maxillary slightly dilated, ending in an acute point extending back to the gill-opening; toothed to the extreme posterior angle of the straight inferior edge. Gill rakers not very numerous, the longest as long as the eye. Origin of the dorsal fin midway between the posterior margin of the orbit and the root of the caudal fin. Distance of ventral from snout equal to length of maxilla. Anal fin inserted under posterior third of dorsal (12th or 13th ray). Pectorals a little longer than ventrals (half as long as head); their tips falling short of reaching the origin of ventrals by a distance equal to half the diameter of the orbit. The ventrals are half as long as the lower jaw. Lateral stripe one-third of the height of the body at the ventrals. Scales in the lateral line not counted.

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## SILURIDÆ.

30. *Ariopsis felis* (LINN.), Gill & Jordan.

Several young specimens (23633), 25 millimeters long, were obtained by Dr. Velie from Marco Island near Cape Romano, Fla.

The umbilical sacs are still attached, and are 13 millimeters in diameter.

## MURENIDÆ.

31. *Sphagebranchus scuticaris*, n. sp. Goode & Bean.

A specimen (No. 23636), 750 millimeters long, from Cedar Key, Fla. It appears to belong to the group *Sphagebranchus* as limited by Günther in his key to the species in the genus *Ophichthys*.

The occurrence of this genus in the Gulf of Mexico, or indeed in the Atlantic is noteworthy. All the species recognized by Günther are from Eastern seas, except two from the Mediterranean.

*Diagnosis.*—Teeth small, conical; gill-openings close together. The dorsal fin commences far in advance of the gill-opening, a little nearer to the top of the snout than to the gill-opening, at a distance from the former equal to three times the length of the snout. The length of the head is contained  $8\frac{1}{2}$  times in distance between gill-opening and vent, and 8 times in length of tail. Snout pointed, contained 6 times in length of head. Teeth biserial in jaws and on vomer. Pectorals extremely small. Color, brownish, lighter below.

*Measurements.*

|  | Millimeters.    |
|--|-----------------|
| Length of body .....                       | 750             |
| Length of tail .....                       | 345             |
| Length of head .....                       | 43              |
| Width of interorbital area .....           | 5               |
| Length of snout .....                      | $6\frac{1}{2}$  |
| Angle of mouth from tip of upper jaw ..... | $10\frac{1}{2}$ |
| Angle of mouth from tip of lower jaw ..... | 8               |
| Diameter of orbit .....                    | $1\frac{1}{2}$  |
| Distance of dorsal from snout .....        | 21              |
| Width of gill-opening .....                | $5\frac{1}{2}$  |
| Length of pectoral (right side) .....      | 2               |
| Length of pectoral (left side) .....       | $1\frac{1}{8}$  |

**32. *Gymnothorax ocellatus*, Agassiz.**

A single specimen (No. 23634), 325 millimeters long, was sent from Clear Water Harbor. The markings are of the typical character.

**33. *Crotalopsis mordax* (Poey), Goode & Bean.**

Two specimens (No. 23635), 265 and 232 millimeters, were sent by Dr. J. W. Velie from Clear Water Harbor, Fla. They are young, and have the eye contained about  $1\frac{1}{2}$  times in the length of the snout. The spots are large, the longest with diameter less than half the length of the head.

TRYGONIDÆ.

**34. *Dasybatis sabina* (LESUEUR).—*Sting Ray*.**

Three specimens (No. 23648) in salt, each about two feet long, tail included, were sent by Dr. Velie; also, a large skin of a Sting Ray, probably *D. tuberculatus*, or perhaps *D. hastatus* or *D. Sayi*.

GALEORHINIDÆ.

**35. *Hypoprion brevirostris*, Poey.—*Man-eater Shark*.**

A large specimen (No. 23649) in salt was sent by Dr. Velie. This species was incorrectly cited by us, *lapso calami*, in the American Journal of Science and Arts, October, 1877, under the name *Hypoprion longirostris*.

SPHYRNIDÆ.

**36. *Reniceps tiburo* (Linn.), Gill.—*Shovel-nose Shark*.**

A single small specimen in salt (No. 23650) was sent by Dr. Velie.

## GINGLYMOSTOMATIDÆ.

37. *Ginglymostoma cirratum*.—*Nurse Shark*.

A large specimen (No. 23651), about nine feet long, in salt, was sent by Dr. Velie.

NOTE.—The following new species are described in this paper:

*Diapterus homonymus*, Goode & Bean.

*Batrachus tau* (Linn.), Cuv., subsp. *pardus*, Goode & Bean.

*Hemulon fremebuudum*, Goode & Bean.

*Rhypticus pituitosus*, Goode & Bean.

*Atherina Velicana*, Goode & Bean.

*Engraulis hiuleus*, Goode & Bean.

*Sphagebranchus scuticaris*, Goode & Bean.

UNITED STATES NATIONAL MUSEUM,

Washington, December 31, 1879.

**NOTICE OF A NEW SPECIES OF THE 'WILLEMOSIA GROUP OF CRUSTACEA' (RECENT ERYONTIDÆ).**

By **SIDNEY I. SMITH.**

Among the very interesting collections of marine invertebrate animals made during the past two years by the fishermen of Gloucester, Mass., and presented to the United States Fish Commission, for the National Museum, there are two species of podophtalmous Crustacea of peculiar interest. One of these is a remarkable Paguroid which I have already described (*Trans. Connecticut Acad.*, v, p. 50, 1879), but of which several additional specimens have been received since the description was published: the other, which is the subject of this notice, belongs to the "Willemoesia group of Crustacea," first brought into prominent notice by the researches in connection with the Challenger Expedition. Of the latter species I have seen only a single specimen, which was taken at a depth of 250 fathoms, off the coast of Nova Scotia, southeast of Sable Island, latitude  $43^{\circ} 10'$  north, longitude  $61^{\circ} 20'$  west, by Captain Thomas Olsen, of the schooner *Epes Tarr*. This specimen is not in very good condition, having been dried (probably after being taken from the stomach of some fish, though there is very little evidence of digestion having begun), and the internal organs consequently destroyed, but it is still sufficient to throw considerable light upon the structural peculiarities of the group to which it belongs, and on this account particularly I am induced to publish a special notice of it.

Of the three genera into which Bate\* has recently separated the forms of the "Willemoesia group," our species should unquestionably be referred to *Pentacheles*, but, on account of the at present uncertain

\* On the Willemoesia Group of Crustacea. < *Annals and Magazine Nat. Hist.*, V, ii, pp. 273-283, pl. 13, 1878.